STATE
CURRENT AND FUTURE STUDIES AND ACTIVITIES ON
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Compiled by
San Joaquin River Management Program Work Group
April 5, 1990

California Department of Boating and Waterways

The California Department of Boating and Waterways has an ongoing boat access and facilities program that could be applied to the San Joaquin River and tributaries. The Department of Boating and Waterways also has a water hyacinth eradication program on the San Joaquin (mostly in the Delta) and on the Merced River.

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California Department of Fish and Game

DFG is formulating a salmon management plan for the Central Valley on how to achieve population goals. DFG is also developing a spawning riffle atlas from aerial photographs. California State University, Fresno, has been contracted to do the work.

DFG is a cooperator in the offstream and refuge water supply studies. Water needs have been identified, but the necessary plumbing has not. Kesterson mitigation lands could be used to temporarily store floodwaters.

DFG is a participant in the Bay-Delta hearings which will set water export criteria.

DFG is not supporting any more one-year water transfers without detailed environmental documentation.

DFG is working with other State and federal agencies to meet the objective of the North American Waterfowl Plan (NAWP) to create 120,000 acres of recovery wetlands in the Central Valley. Agencies are looking for multiple benefits. NAWP is a component of the Joint Venture Program.

The statewide Salmon and Steelhead Restoration Plan includes actions on the San Joaquin River and tributaries (Senate Bill 2261). Action taken includes a two-agency agreement between DFG and the California Department of Water Resources (DWR) for mitigating losses at the State Water Project (SWP) Delta export facilities. The agreement involves the following related habitat improvement projects on San Joaquin River drainage.

1. Tuolumne River -- four projects are either underway or pending that emphasize improving instream fish habitat and general wildlife conditions. Actions proposed include riffle and gravel rehabilitation, reestablishment of floodplains, levee restoration, elimination of juvenile stranding, juvenile rearing habitat restoration, and fish screen installation. The four projects are as follows:

   M. J. Ruddy site
   George Reed gravel site
   Turlock and Modesto Irrigation Districts
   Putnam gravel site

2. Merced River -- three projects are proposed that will also improve instream habitat conditions. Work on the Merced River will include the same activities listed above for the Tuolumne River, plus the reestablishment of bankful channels and restoration of an old oxbow to spawning and rearing habitat. The three projects are as follows:

   Gallo/Bettencourt site

Gravel addition and riffle crests at Merced River fish facility
Robinson/Western Stone Products site

Merced River fish facility is being modernized with new concrete rearing ponds, new water supply line, water sterilization units, and added egg incubation capacity. Production capacity will be increased by about 50 percent.

3. Tuolumne or Stanislaus River hatchery -- Several sites are being screened for potential hatchery locations. Final site selection will depend upon engineering concerns, water quantity and quality, land availability, and public concerns. A salmon and steelhead hatchery is an important component in fishery restoration throughout the drainage.

Discussions have begun on a three-party (USBR, DFG and DWR) agreement to address Bay-Delta fishery impacts not covered in the two-agency agreement.

DFG is evaluating the feasibility of leasing and/or purchasing water rights to benefit fish and wildlife.

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California Department of Parks and Recreation

The California Department of Parks and Recreation has an ongoing program for public recreation throughout the State (including facilities on the San Joaquin River).

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California Department of Water Resources

DWR's Division of Flood Management oversees the following:

1. Designated Floodway Program.
2. National Flood Insurance Program.
3. Reclamation Board permit processing.
4. Flood forecasting/real time information.
5. Water supply forecasting.
6. Snowmelt bulletin.
7. Encroachment Control and Inspection Program.
8. Telemetering and remote sensing.
9. Floodfighting Advice Program.
10. Developing simulation modeling capability to predict water behavior during flood events.

DWR's Division of Planning oversees the following:

1. Stanislaus and Calaveras River Basins Water Management Study -- a joint USBR/DWR study to provide for local water demands, increase instream flows for fishery, improve water quality in the south Delta channels, and overcome ground water overdraft in the area through conjunctive use of the water supply.

2. Water conveyance and purchase contract -- a joint EIS/EIR being prepared by USBR and DWR for the proposed purchase of currently unused CVP interim water by DWR in exchange for conveyance of CVP water through SWP facilities to increase water deliveries to south of Delta CVP and SWP contractors. Provisions for this two-agency agreement were outlined in Article 10(h) of the coordinated operations agreement. The impacts of San Joaquin Valley environmental resources will be discussed as part of this EIS/EIR.

3. Land use surveys conducted about every five years to identify irrigated crops, source of applied water, urban lands, native vegetation, etc.

4. Water use/water supply balance studies to determine adequacy of present and future supplies.

5. Ground water pumping and recharge estimation (SWAM model).

6. Model DWRSIM, used to simulate the operation of the CVP-SWP system on a monthly basis for a 57-year historic period. The model includes a pre-operation of the San Joaquin River system and tributaries with the exception of New Melones Reservoir, which can be operated to meet Delta objectives.

7. A surface and ground water conjunctive use model of the Central Valley to develop hydrologies at a projected level for operation studies.

8. The two-agency agreement (see DFG section).

9. The three-party agreement (see DFG section).

DWR's Division of Local Assistance is administering a research contract to the U. S. Geological Survey to determine ground water contributions to the San Joaquin River. The Division of Local Assistance is also responsible for administering the San Joaquin Valley Drainage Program.

In 1989, DWR examined the possibility of releasing 200 cfs of surface water from Friant Dam and recharging the water at Gravelly Ford. The water would be recharged during the nonirrigation season (November to April) and then extracted during the irrigation season. The project would provide some additional undetermined yield to the Central Valley Project along with some environmental enhancement of the San Joaquin River.

Proposition 44 provides low interest loans for three purposes: artificial recharge operations, conservation (i.e. canal lining), and drainage programs. Proposition 82 added the category of water supply to the list. DWR is administering these funds together with the SWRCB.

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State Lands Commission

The State Lands Commission (SLC) administers the State's sovereign interests in navigable waterways of the San Joaquin River Basin, including the San Joaquin River downstream from Friant Dam and certain tributaries and distributaries. This interest includes fee title between the low-water marks and a public trust easement between low- and high-water marks. (In areas of tidal influence, fee title extends to high water.)

SLC's management activities include land use leases, various permits, setting of boundaries, and protection of public trust uses of the waterways. In general, management decisions are made on a case-by-case basis, and information on projects is available from indices and files, with limited computerization.

SLC is currently making a comprehensive of the San Joaquin River from Friant Dam to Gravelly Ford to determine the location of State-owned sovereign lands. This study includes precise survey leveling and controlled aerial photography (January 1989) mapping of the study corridor. The aerial photographs and topographic information being developed will aid in the establishment of the location of sovereign lands and will be useful for landowners, surveyors, flood control managers, parkway planners, and other government agencies. Copies of the aerial photography are available from SLC at cost. A further step of this study is to develop topographic maps, although funding has not yet been secured.

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State Water Resources Control Board

SWRCB and the University of California, Davis, have developed an accounting model (called SJRIO) of the lower San Joaquin River (from Lander Avenue to Vernalis) for flow, salinity, boron, selenium, and molybdenum. This model is being modified to be a stochastic model which can predict water quality in the San Joaquin River for various hydrologic and drainage management scenarios. Also under this contract, UC Davis is evaluating a physics-based approach to pollutant transport in the lower San Joaquin River.

SWRCB is contracting with USGS for a field study to estimate ground water inflows to the lower San Joaquin River and its quality. The final report from this study should be available later in 1990.

SWRCB is also contracting with USGS to continue monitoring streamflow, electrical conductivity, and temperature at critical stations in the San Joaquin River Basin, including Mud and Salt Sloughs.

SWRCB is part of an interagency planning team (along with USBR and DWR) which is contracting with James M. Montgomery Engineers and Boyle Engineering to develop a ground water model for the entire San Joaquin Valley.

SWRCB is also contracting with Boyle Engineering and Flow-Science, Inc., for a Central Valley water use study. The objective of this study is to determine the effect of water use upstream of the Bay-Delta Estuary on Bay-Delta flow and salinity under present and future levels of development.

SWRCB is developing water quality objectives for beneficial uses of Delta water. The standards will be developed through a series of hearings and result in revisions to Decision 1485. USBR, USFWS, DFG, and DWR are participants in this process.

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California Regional Water Quality Control Board

Listed below are studies and investigations conducted by the California Regional Water Quality Control Board on water quality concerns associated with the San Joaquin River drainage basin from the tributaries to the Sacramento-San Joaquin Delta. Most of the investigations were initiated prior to or during 1989 and concluded with reports in late 1989 or early 1990.

General Overview Studies (1989)

1. Municipal and industrial discharge survey for selenium in the San Joaquin Valley.
2. Survey of Tule drainage discharges into the San Joaquin River.

Site-Specific Studies

1. Area-wide tile and surface drainage surveys in the San Joaquin River Basin.
   a. East side discharges.
   b. Stanislaus County discharges.
   c. San Joaquin County discharges.
   d. Contra Costa County discharges.
   e. South Delta islands discharges.
   f. Central and northern Delta islands discharges.
   g. Kings River survey.

2. Waterfowl and wildlife refuges in the Central Valley.
   a. Modoc National Wildlife Refuge (NWR) and Ash Creek Wildlife Management Area (WMA).
   b. Merced NWR.
   c. Sacramento NWR.
   d. Gray Lodge WMA.
   e. Mendota WMA.

Stream Quality Evaluations (1989)

1. Sacramento River Basin survey.
2. Willow Slough survey.
3. West side creeks survey.
4. Stream background survey.

Beneficial Use Assessments (1989)

1. Surface water
   a. San Joaquin River (Mendota to Mossdale).
   b. Tuolumne River downstream of Highway 99.
   c. Merced River downstream of Highway 99.
   d. Stanislaus River downstream of Highway 99.
   e. Mud Slough.
   f. Salt Slough.
   g. Tributaries to Mud and Salt Sloughs.

2. Ground water
   a. South Grasslands area.
   b. Westley-Patterson Ground Water Investigation.
   c. Kesterson area.

Discharge Assessments (1989)

1. San Joaquin River.
2. Tuolumne River.
3. Merced River.
4. Stanislaus River.
5. Delta-Mendota Canal.
6. Mud Slough.
7. Salt Slough.
8. Kings River.
9. Grasslands area.
10. A 72-hour drain survey.
11. Grasslands area.
12. San Joaquin River toxicity testing.
13. Drain locations (San Joaquin River Basin).
14. Solano Irrigation District.

Basin Planning -- Water Quality Objectives

1. Animal drinking water guidelines.
2. Trace elements in irrigation water.
3. Basin plan amendments (San Joaquin River Basin).
4. Panoche Fan ground water hydrology.

Evaporation Basins in the San Joaquin Valley

1. Water and sediment quality.
2. Uranium.
3. Biological characterization.
4. Physical and chemical characterization.
5. Analytical methods for high-salt water.

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University of California, Davis

Professor Orlob of the University of California, Davis, is currently investigating the seasonal salt load of the lower San Joaquin River.

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Wildlife Conservation Board

The Wildlife Conservation Board is involved in several land acquisition projects on the San Joaquin River and its tributaries using Proposition 70 monies and other funds.